



Truncated telomerase

ATGCCGGCGCTCCCGCTGCCGAGCGCTGCCGCTCCCTGCCGAGCCACTACCGCAGGTGCTGCCCTGCCACGGACGCA CGCCGCCCGCCCGCC
 M P R A P R C R A V R S L L R S H Y R E V L P L A T F V
 CGCGCCTGGGGCCCAGGGCTGGCGCTGGTGCAAGCGGGGACCGCGGCTTCCGCCTGGCCAGGGCTGGCTGCCACTGGACGCA CGCCGCCCGCCCGCC
 R R L G P Q G W R L V Q R G D P A A F R A L V A Q C L V C V P W D A R P P P A A
 CCCCTCCCTCCGCCAGGTGCTGCCGAAGGAGCTGGCTGCCAGGGCTGCCAGGGCGGCCGAAGAAGCTGCCCTGCCCTGCCGCCGCTGCCACTGGACGCGCC
 P S F R Q V S C L K E L V A R V L Q R L C E R G A K N V L A F G F A L L D G A R
 CGGGGGCCCCCGAGGGCTTACACCAAGCTGCCAGCTACCTGCCAACACCGTACCCGACGCCACTGCCGGGACCGGGCTGCCACTGCCGCCGCTGCCACGGACGCG
 G G P P E A F T T S V R S Y L P N T V T D A L R G S A W G L L L R V G D D V
 GCTGGTACCTGCCGACGCTGGCGCTCTTGCTGGCTCCCACTGCCAGGTGCGGGCCCGCTGCCACTGCCACTGCCACTGCCACGGCCCGCCCGCC
 L V H L L A R C A L F V L V A P S C A Y Q V C G P L Y Q L G A A T Q A R P P P
 ACACGCTAGTGGACCCGAAGCGCTGGATGCCAACGGCCCTGGAAACCATAGCGTAGGGAGGCCGGTCCCGCTGCCAGGCCGGTCCGAGGGAGGCCGGCAGTC
 H A S G P R R R L G C E R A W N H S V R E A G V P L G L P A P G A R R R G G S A
 CAGCGAAGTCTGCCGTGCCAACAGGCCAGGGCTGCCCTGCCAGGCCAGGGCTGCCACGGCCCTGGGAGGCCGGTCCGAGGGAGGCCGGCAGTC
 S R S L P L P K R P R R G A A P E P E R T P V P G Q G S W A H P G R T R G P S D R
 TGGTTCTGTGGTGTACCTGCCAGGCCAGGCCAACCTCTTGAGGGCTCTGCCAGGCCCTCCACCGCCATGCCACGGCCCTGGGAGGCCGGTCCGAGGGAGGCCGGCAGTC
 G F C V V S P A R P A E E A T S L E G A L S G T R H S P V S G R Q H H A G P P
 ATCCACATCGGCCACACGCCCTGGCACGCCCTGGCACGCCCTGGCACGCCAGGACTCTCTCTACTCTCACGCCAGGCCCTGGCACGCCAGTC
 S T S R P P R P W D T P C P P V Y A E T K H F L Y S S G D K E Q L R P S F L L S
 CTCTCTGAGGCCAGGCCACTGGCGCTGGAGCTCGTGAGACCATCTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCCAGGGCTGCCAGGCCACTGGCA
 S L R P S L T G A R R L V E T I F L G S R P W M P G T P R R L P R L P Q R Y W Q
 AATGCCGCCCTGTTCTGGAGCTCTGGGAACCCGGCAGTGCCCTACGGGGCTGCCCTCAAGGCCACTGCCCTGGCACGCCAGGCCCTGGCACGCCAGTC
 M R P L F E L L G N H A Q C P Y G V L L K T H C P L R A A V T P A A G V C A R
 GGAGAAGCCAGGGCTCTGGCGGCCCGAGAGGAGACAGACAGGCCCTGGCTGGAGCTGCCAGGCCAGGCCCTGGAGGTACGGCTCTGGGCC
 E K P Q G S V A A P E E D T D P R R L V Q L L R Q H S S P W Q V Y G F V R A C
 CCTGCCGCCCTGGGCCCTGCCAGGCCCTCTGGGCCCTGCCAGGCCCTGCCAGGCCCTGCCAGGCCCTGCCAGGCCCTGCCAGGCCCTGCCAGGCC
 L R R L V P P G L W G S R H N E R R F L R N T K K F I S L G K H A K L S L Q E L
 GACGTGGAAAGATGAGCGCTGCCGACTGCCCTGGCTGCCAGGCCAGGGGTTGGCTGGCTGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCC
 T W K M S V R D C A W L R R S P G V G C V P A A E H R L R E E I L A K F L H W L
 GATGAGTGTGACGCTGAGCTGCCCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGG
 M S V Y V V E L L R S F F Y V T E T T F Q K N R L F F Y R K S V W S K L Q S I G
 AAT--NNN--GACAGTCACCAGGGGGTTGACCGCGGACTGGCGCTCCAGGGTTGACTATAGGACCAAGGTGCTGCCCTGCAAGTAGGGGCTCTGAGGCC
 CATGGGCTGGACCTGCCCTGGCTGGCTGCCCTGAGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGG
 GCTGAGCAAGCCCTCTGAGGGGCTCTATTG...

FIG. 11A



Truncated telomerase (ver. 2)

```

ATGCCGGCGCTCCCCCTGCCGAGCGTCCGTCCCTGCTGCCAGCCACTACCGCGAGGTCTGCCAGCGTGGCAGCTTCG
M P R A P R C R A V R S L L R S H Y R E V L P L A T F V
CGCGCCTGGGGCCCAGGGCTGGCGCTGGTGCAAGCGGGGACCCGGCTTCCGCGCTGGGCCAGTGCTGGTGCTGCCCTGG
R R L G P Q G W R L V Q R G D P A A P R A L V A Q C L V C V P W D A R P P P A A
GCCCTCCCGGGCTGGCGCTGGGGTTGAGGGGGGGAAACAGCGACATGCCAGAGCACCGCAGCGACTCAGGGCGCTCCCC
G L P G V G V R L G L R A A G G N Q R H A E S S A G D S G R F F P R R
A S P G S A S G W G * G R P G G T S D M R R A A Q A T Q G A S P A G
P P R G R R P A G V E G G R G E P A T C G E Q R R R L R A L P P Q V
CCCTCCCTCCGCCAGGTCTCTGCCAGTGCTGGCCAGTGCTGCCAGGGCTGCGAGCCGGCGCGAAGAACGTCGCTGCCCT
P S F R Q V S C L K E L V A R V L Q R L C E R G A K N V L A F G F A L L D G A R
CGGGGCCCCCGAGGGCTTACCCACCGCGCTGCCAGCTACCTGCCAACACGGTGACCGACGCAGTGCGGGGGGGCTGCTGCC
G G P P E A F T T S V R S Y L P N T D A L R G S G A W M L L R R V G D D V
GCTGGTTCACCTGCTGGCACGCTGCCAGTGCTGGCTCCAGGTCTGCCCTACCGGTGCTGCCAGTGCTGCCACTCAGGCC
L V H L L A R C A L F V L V A P S C A Y Q V C G P P L Y Q L G A A T Q A R P P P
ACACGCTAGGGACCCGAAGGGCTGGGATGCGAACGGCCCTGGAACCATAGCGTAGGGGGGGTCCCCCTGGCTGCCACGCC
H A S G P R R R L G C E R A W N H S V R E A G V P L G L P A P G A R R R G G S A
CAGCGAACGCTGCCCTGGCCAAGGGCCAGGGCTGGGCTGCCCTGAGGCCAGGCCGACGCCGTTGGCAGGGGCTGGGCCAC
S R S L P L P K R P R R G A A P E P E R T P V G Q G S W A H P G R T R G P S D R
TGTTTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG
G F C V V S P A R P A E E A T S L E G A L S T G R H S H P S V G R Q H H A G P P
ATCCACATCGGCCACCGCTGGACACGCCCTGGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG
S T S R P P R P W D T P C P P V Y A E T K H F L Y S S G D K E Q L R P S F L L S
CTCTCTGAGGCCAGGCTGACTGGCCTGGAGGCTGGAGACCATCTTCTGGGTTCCAGGCCGATGCCAGGTGCCCCGCTGCC
S L R P S L T G A R R L V E T I F L G S R P W M P G T P R R L P R L P Q R Y W Q
AATGCGGCCCTGTTCTGGAGCTGGAACCCGCGACTGGCCAGTGGCCCTACGGGGTCTCTCAAGACGCACGCCCTGGCTAC
M R P L F L E L G N H A Q C P Y G V L L K T H C P L R A A V T P A A G V C A R
GGAGAACCCAGGGCTCTGGGGCCCGAGGAGGACACAGACCCCGTGGCTGGAGCTGCTGCCAGCACAGCAGGCCCTGG
E K P Q G S V A A P E E D T D P R R L V Q L L R Q H S S P W Q V Y G F V R A C
CCTGCCGCCCTGGCTGCCAGGCCCTGGCTCCAGGCCAACGAACGCCCTCTCAGGAACCCAAGAAGTCATCTCCCTGGGAAG
L R R L V P P G L W G S R H N E R R F L R N T K K F I S L G K H A K L S L Q E L
GACGTGGAAATGAGCTGGGGACTGGCTGGCTGCCAGGAGGCCAGGGCTGGCTGGCTGGAGCTGCCAGGCCAGGCCAGG
T W K M S V R D C A W L R R S P G V G C V P A A E H R L R E E I L A K F L H W L
GATGAGCTGCTGAGCTGCTGAGCTGCTGAGCTTCTTCTGCTGAGGAGACAGCTTCTGCTGAGGAGATCTGCCAGG
M S V Y V V E L L R S F F Y V T E T T F Q K N R L F F Y R K S V W S K L Q S I G
AAT--NNN--GACAGTCACCAAGGGGGTGGACCGCCGGACTGGCGTCCCAGGGTACTATAGGACAGGTGCTGCCAGG
CATGGGTGGACGTGGCCCGGGCATGCCCTTGCGTGTGCTGCCGTGGTGCCTGAGCCCTACTGAGTCGGTGGGGCTTG
GCTGAGCAAAGCTCTGAGGGCTCTATTG...

```

FIG. 11L